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NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2	Apr 08	"Ask CAS" for self-help around the clock
NEWS	3	Apr 09	BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS	4	Apr 09	ZDB will be removed from STN
NEWS	5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS	6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS	7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS	8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS	9	Jun 03	New e-mail delivery for search results now available
NEWS	10	Jun 10	MEDLINE Reload
NEWS	11	Jun 10	PCTFULL has been reloaded
NEWS	12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS	13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS	14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS	15	Jul 30	NETFIRST to be removed from STN
NEWS	16	Aug 08	CANCERLIT reload
NEWS	17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS	18	Aug 08	NTIS has been reloaded and enhanced
NEWS	19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS	20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS	21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS	22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS	23	Sep 03	JAPIO has been reloaded and enhanced
NEWS	24	Sep 16	Experimental properties added to the REGISTRY file
NEWS	25	Sep 16	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS	26	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS	27	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS EXPRESS			February 1 CURRENT WINDOWS VERSION IS V6.0d, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
NEWS HOURS			STN Operating Hours Plus Help Desk Availability
NEWS INTER			General Internet Information
NEWS LOGIN			Welcome Banner and News Items
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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 19:57:49 ON 09 OCT 2002

=> filecaplus

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=> file caplus

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FULL ESTIMATED COST	0.21	0.21

FILE 'CAPLUS' ENTERED AT 19:58:09 ON 09 OCT 2002

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FILE COVERS 1907 - 9 Oct 2002 VOL 137 ISS 15

FILE LAST UPDATED: 8 Oct 2002 (20021008/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> s oxid?

L1 2369625 OXID?

=> s l1 and aqueous

148293 AQUEOUS  
1 AQUEOUSES  
148294 AQUEOUS  
(AQUEOUS OR AQUEOUSES)  
933909 AQ  
119 AQS  
933982 AQ  
(AQ OR AQS)  
968682 AQUEOUS  
(AQUEOUS OR AQ)

L2 169395 L1 AND AQUEOUS

=> s l2 catalyst

MISSING OPERATOR L2 CATALYST

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s 12 and catalyst  
601917 CATALYST  
585163 CATALYSTS  
767433 CATALYST  
(CATALYST OR CATALYSTS)

L3 24536 L2 AND CATALYST

=> s 13 and nanoparticle  
11088 NANOPARTICLE  
17675 NANOPARTICLES  
18714 NANOPARTICLE  
(NANOPARTICLE OR NANOPARTICLES)

L4 67 L3 AND NANOPARTICLE

=> s 14 and stabiliz?  
354798 STABILIZ?  
L5 8 L4 AND STABILIZ?

=> s 15 and alcohol  
165042 ALCOHOL  
124445 ALCOHOLS  
270252 ALCOHOL  
(ALCOHOL OR ALCOHOLS)  
503294 ALC  
162712 ALCS  
587755 ALC  
(ALC OR ALCS)  
681787 ALCOHOL  
(ALCOHOL OR ALC)

L6 3 L5 AND ALCOHOL

=> dis 16 1-3 bib abs

L6 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2002:90690 CAPLUS

DN 136:285000

TI Deposition of Platinum **Nanoparticles**, Synthesized in  
Water-in-Oil Microemulsions, on Alumina Supports

AU Ingelsten, Hanna Haerelind; Beziat, Jean-Christophe; Bergkvist, Kristina;  
Palmqvist, Anders; Skoglundh, Magnus; Hu, Qihong; Falk, Lena K. L.;  
Holmberg, Krister

CS Competence Centre for Catalysis, Department of Applied Surface Chemistry,  
Department of Applied Physics, and Department of Experimental Physics,  
Chalmers University of Technology, Goeteborg, SE-412 96, Swed.

SO Langmuir (2002), 18(5), 1811-1818

CODEN: LANGD5; ISSN: 0743-7463

PB American Chemical Society

DT Journal

LA English

AB Pt **nanoparticles** were prepd. in H<sub>2</sub>O-in-oil microemulsions and deposited on .gamma.-alumina using 2 different methods. In the 1st method, the alumina support was added to the particle suspension and the microemulsion was subsequently destabilized by addn. of THe, whereby the particles were deposited on the alumina support. In the other method, the Pt **nanoparticles** were transferred to an aq. soln. where they were redispersed by a **stabilizing** surfactant prior to addn. of the alumina support. The size of the microemulsion droplets and of the unsupported Pt particles was in the range of a few nanometers as measured by a dynamic light scattering technique (photon correlation spectroscopy). The size of the unsupported Pt **nanoparticles** and of the particles deposited on alumina was studied by TEM. Both methods for Pt particle deposition resulted in some degree of particle agglomeration, the 1st probably because of too-fast destabilization of the

microemulsion and the 2nd due to inefficient redispersion of the Pt particles when transferred to the **aq.** phase. All samples studied showed high catalytic activity for CO **oxidn.** by oxygen. The highest activity was found for those samples prepd. via the redispersion method where a relatively weak interaction was achieved between the redispersed Pt particles and the alumina.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2000:666737 CAPLUS

DN 133:254142

TI Catalytic method for modifying carbohydrates, **alcohols**, aldehydes or polyhydroxy compounds

IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza

PA Sudzucker Aktiengesellschaft, Germany *instmt*

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in **aq.** phase is carried out in the presence of metal **catalysts** consisting of polymer-**stabilized nanoparticles**. A **catalyst** of this type is not deactivated by the conversion reaction as long as the **stabilizing** interaction between the polymer and the **nanoparticles** is maintained. For example, activity of an Al<sub>2</sub>O<sub>3</sub>-supported, poly(vinylpyrrolidone)-**stabilized** Pt colloid **catalyst** (prepn. given) in **oxidn.** of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al<sub>2</sub>O<sub>3</sub>-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2000:566746 CAPLUS

DN 134:117443

TI Hydrogenation of olefins in **aqueous** phase, catalyzed by ligand/protected and polymer-protected rhodium colloids

AU Borsla, A.; Wilhelm, A. M.; Canselier, J. P.; Delmas, H.

CS Laboratoire de Genie Chimique-UMR CNRS 5503 (INPT/UPS) Ecole Nationale Supérieure d'Ingenieurs de Genie Chimique, Toulouse, 31078/4, Fr.

SO Studies in Surface Science and Catalysis (2000), 130C(International *date!* Congress on Catalysis, 2000, Pt. C), 2093-2098

CODEN: SSCTDM; ISSN: 0167-2991

PB Elsevier Science B.V.

DT Journal

LA English

AB M-tri-sulfonated triphenylphosphine **oxide** as its sodium salt

(OTPPTS) and highly water sol. polymers such as poly(vinyl alc.) (PVA) and poly(vinylpyrrolidone) (PVP) were used to **stabilize** colloidal suspensions of active rhodium particles. The **stabilized** colloids were used as **catalysts** in hydrogenation of oct-1-ene in a two-liq. phase system. The effect of various parameters on the stability and activity of the metal **nanoparticles** under more or less severe conditions was studied. For OTPPTS-protected rhodium colloid systems, the colloid stability improved by increasing the P/Rh molar ratio. Lowering the pressure also improved stability, but led to lower catalytic activity while temp. had no effect on stability but rather on the formation of the active species. The PVP(K15)-Rh colloids can be re-used more than one time at 50.degree. and 0.3 MPa without loss of activity, but not the PVP(K30)-Rh and PVA-Rh colloids. Recycling of the catalytic phase provided unchanged turnover frequencies. Suppression of co-solvent did not result in noticeable changes in activity, indicating that the reaction takes place at the interface. The MET micrographs of the catalytic phase of the OTPPTS-Rh system after use in hydrogenation shows 4 nm particles contg. rhodium **oxide** and metallic rhodium. IR spectroscopy anal. of the PVP-Rh colloids shows geminal and terminal Rh-CO species with a preponderance of the geminal ones.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 15 and carbohydrate  
108745 CARBOHYDRATE  
116172 CARBOHYDRATES  
176447 CARBOHYDRATE  
(CARBOHYDRATE OR CARBOHYDRATES)  
L7 1 L5 AND CARBOHYDRATE

=> dis 17 ibib abs

L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2000:666737 CAPLUS  
DOCUMENT NUMBER: 133:254142  
TITLE: Catalytic method for modifying **carbohydrates**  
, alcohols, aldehydes or polyhydroxy compounds  
INVENTOR(S): Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf;  
Vorlop, Klaus-Dieter; Haji Begli, Alireza  
PATENT ASSIGNEE(S): Sudzucker Aktiengesellschaft, Germany  
SOURCE: PCT Int. Appl., 45 pp.  
CODEN: PIXXD2 *instant*  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
W: AU, CA, IL, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19911504	A1	20001019	DE 1999-19911504	19990316
EP 1165580	A1	20020102	EP 2000-925117	20000316
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AU 747812	B2	20020523	AU 2000-43953	20000316
PRIORITY APPLN. INFO.:				
			DE 1999-19911504 A	19990316
			WO 2000-EP2351 W	20000316

AB Industrial conversion of the title compds. in **aq.** phase is carried out in the presence of metal **catalysts** consisting of polymer-stabilized **nanoparticles**. A **catalyst**

of this type is not deactivated by the conversion reaction as long as the **stabilizing** interaction between the polymer and the **nanoparticles** is maintained. For example, activity of an Al<sub>2</sub>O<sub>3</sub>-supported, poly(vinylpyrrolidone)-**stabilized** Pt colloid **catalyst** (prepn. given) in **oxidn.** of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al<sub>2</sub>O<sub>3</sub>-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> dis hist

(FILE 'HOME' ENTERED AT 19:57:49 ON 09 OCT 2002)

FILE 'CAPLUS' ENTERED AT 19:58:09 ON 09 OCT 2002

L1 2369625 S OXID?  
L2 169395 S L1 AND AQUEOUS  
L3 24536 S L2 AND CATALYST  
L4 67 S L3 AND NANOPARTICLE  
L5 8 S L4 AND STABILIZ?  
L6 3 S L5 AND ALCOHOL  
L7 1 S L5 AND CARBOHYDRATE

=> s l5 and platinum

153377 PLATINUM  
48 PLATINUMS  
153387 PLATINUM  
(PLATINUM OR PLATINUMS)  
L8 2 L5 AND PLATINUM

=> dis l8 1-2 bib abs

L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS  
AN 2002:90690 CAPLUS  
DN 136:285000  
TI Deposition of **Platinum Nanoparticles**, Synthesized in  
Water-in-Oil Microemulsions, on Alumina Supports  
AU Ingelsten, Hanna Haerelind; Beziat, Jean-Christophe; Bergkvist, Kristina;  
Palmqvist, Anders; Skoglundh, Magnus; Hu, Qihong; Falk, Lena K. L.;  
Holmberg, Krister  
CS Competence Centre for Catalysis, Department of Applied Surface Chemistry,  
Department of Applied Physics, and Department of Experimental Physics,  
Chalmers University of Technology, Goeteborg, SE-412 96, Swed.  
SO Langmuir (2002), 18(5), 1811-1818 *date!*  
CODEN: LANGD5; ISSN: 0743-7463  
PB American Chemical Society  
DT Journal  
LA English  
AB Pt **nanoparticles** were prepd. in H<sub>2</sub>O-in-oil microemulsions and  
deposited on .gamma.-alumina using 2 different methods. In the 1st  
method, the alumina support was added to the particle suspension and the  
microemulsion was subsequently destabilized by addn. of THe, whereby the  
particles were deposited on the alumina support. In the other method, the  
Pt **nanoparticles** were transferred to an aq. soln.  
where they were redispersed by a **stabilizing** surfactant prior to  
addn. of the alumina support. The size of the microemulsion droplets and  
of the unsupported Pt particles was in the range of a few nanometers as  
measured by a dynamic light scattering technique (photon correlation  
spectroscopy). The size of the unsupported Pt **nanoparticles** and  
of the particles deposited on alumina was studied by TEM. Both methods  
for Pt particle deposition resulted in some degree of particle  
agglomeration, the 1st probably because of too-fast destabilization of the

microemulsion and the 2nd due to inefficient redispersion of the Pt particles when transferred to the **aq.** phase. All samples studied showed high catalytic activity for CO **oxidn.** by oxygen. The highest activity was found for those samples prepd. via the redispersion method where a relatively weak interaction was achieved between the redispersed Pt particles and the alumina.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 2000:666737 CAPLUS

DN 133:254142

TI Catalytic method for modifying carbohydrates, alcohols, aldehydes or polyhydroxy compounds

IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza

PA Sudzucker Aktiengesellschaft, Germany *instant*

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in **aq.** phase is carried out in the presence of metal **catalysts** consisting of polymer-**stabilized nanoparticles**. A **catalyst** of this type is not deactivated by the conversion reaction as long as the **stabilizing** interaction between the polymer and the **nanoparticles** is maintained. For example, activity of an Al<sub>2</sub>O<sub>3</sub>-supported, poly(vinylpyrrolidone)-**stabilized** Pt colloid **catalyst** (prepn. given) in **oxidn.** of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al<sub>2</sub>O<sub>3</sub>-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s hydrogenation

150203 HYDROGENATION

1908 HYDROGENATIONS

L9 150451 HYDROGENATION

(HYDROGENATION OR HYDROGENATIONS)

=> s 19 and aqueous

148293 AQUEOUS

1 AQUEOUSES

148294 AQUEOUS

(AQUEOUS OR AQUEOUSES)

933909 AQ

119 AQS

933982 AQ

```

                (AQ OR AQS)
          968682 AQUEOUS
                (AQUEOUS OR AQ)
L10      14512 L9 AND AQUEOUS

=> s l10 and catalyst
          601917 CATALYST
          585163 CATALYSTS
          767433 CATALYST
                (CATALYST OR CATALYSTS)
L11      6442 L10 AND CATALYST

=> s l11 and metal
          1371087 METAL
          685692 METALS
          1661953 METAL
                (METAL OR METALS)
L12      1568 L11 AND METAL

=> s l12 and polymer (w) stabiliz?
          849461 POLYMER
          708926 POLYMERS
          1158743 POLYMER
                (POLYMER OR POLYMERS)
          354798 STABILIZ?
          3772 POLYMER (W) STABILIZ?
L13      3 L12 AND POLYMER (W) STABILIZ?

=> s l12 and polymer
          849461 POLYMER
          708926 POLYMERS
          1158743 POLYMER
                (POLYMER OR POLYMERS)
L14      89 L12 AND POLYMER

=> s l14 and nanoparticle
          11088 NANOPARTICLE
          17675 NANOPARTICLES
          18714 NANOPARTICLE
                (NANOPARTICLE OR NANOPARTICLES)
L15      5 L14 AND NANOPARTICLE

=> s l15 and aldehyde
          89500 ALDEHYDE
          84224 ALDEHYDES
          139257 ALDEHYDE
                (ALDEHYDE OR ALDEHYDES)
L16      0 L15 AND ALDEHYDE

=> s l15 and alcohol
          165042 ALCOHOL
          124445 ALCOHOLS
          270252 ALCOHOL
                (ALCOHOL OR ALCOHOLS)
          503294 ALC
          162712 ALCS
          587755 ALC
                (ALC OR ALCS)
          681787 ALCOHOL
                (ALCOHOL OR ALC)
L17      2 L15 AND ALCOHOL

=> dis l17 1-2 bib abs

```



L17 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 2001:65241 CAPLUS

DN 134:268058

TI Synthesis and functionalities of poly(N-vinylalkyloamide). XIII.  
Temperature and pH dependence of the catalytic activity of colloidal  
platinum **nanoparticles** stabilized by poly[(vinylamine)-co-(N-

AU Chen, Chun-Wei; Arai, Kumiko; Yamamoto, Kazuya; Serizawa, Takeshi; Akashi,  
Mitsuru

CS Dep. Applied Chem. Chemical Eng., Kagoshima Univ., Kagoshima, 890-0065,  
Japan

SO Macromolecular Chemistry and Physics (2000), 201(18), 2811-2819 *date !*  
CODEN: MCHPES; ISSN: 1022-1352

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB Colloidal platinum **nanoparticles** in the size range of 5-35 .ANG.  
have been successfully prepd. in water at room temp. by NaBH<sub>4</sub> redn. of  
ionic platinum in the presence of poly[(vinylamine)-co-(N-  
vinylisobutyramide)] (PVAm-co-PNVIBA). The temp.- and pH-responsive  
copolymer was used for the first time as the stabilizer of colloidal  
**metal** particles. Three PVAm-co-PNVIBA copolymers with PVAm  
contents of 4.1, 8.3, and 19.8 mol-% were examd. The particle size and  
morphol. of the platinum colloids varied with the copolymer compn., as  
confirmed by TEM measurements. The **polymer**-stabilized Pt  
**nanoparticles** pptd. on heating above their crit. flocculation  
temps. (CFTs), which were strongly dependent on the soln. pH and the  
copolymer compn. The CFTs were 0.2-1.6.degree.C lower than the lower  
crit. soln. temps. (LCSTs) of the copolymers free in water and the  
differences increased with increasing PVAm content. The catalytic  
activity of the Pt **nanoparticles** was investigated in the  
**aq. hydrogenation** of allyl **alc.** It was found  
that the activity was regulated through temp.- and pH-induced phase sepn.  
The PVAm content also strongly effected the catalytic activity and the  
morphol. of phase sepd. **catalysts**. With a PVAm content of 4.1  
mol%, the colloidal platinum sol reversibly changed its catalytic activity  
with changes in temp.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 2000:566746 CAPLUS

DN 134:117443

TI **Hydrogenation** of olefins in **aqueous** phase, catalyzed  
by ligand/protected and **polymer**-protected rhodium colloids

AU Borsla, A.; Wilhelm, A. M.; Canselier, J. P.; Delmas, H.

CS Laboratoire de Genie Chimique-UMR CNRS 5503 (INPT/UPS) Ecole Nationale  
Superieure d'Ingenieurs de Genie Chimique, Toulouse, 31078/4, Fr.

SO Studies in Surface Science and Catalysis (2000), 130C(International  
Congress on Catalysis, 2000, Pt. C), 2093-2098  
CODEN: SSCTDM; ISSN: 0167-2991

PB Elsevier Science B.V.

DT Journal

LA English

AB M-tri-sulfonated triphenylphosphine oxide as its sodium salt (OTPPTS) and  
highly water sol. **polymers** such as poly(vinyl **alc.**)  
(PVA) and poly(vinylpyrrolidone) (PVP) were used to stabilize colloidal  
suspensions of active rhodium particles. The stabilized colloids were  
used as **catalysts** in **hydrogenation** of oct-1-ene in a  
two-liq. phase system. The effect of various parameters on the stability  
and activity of the **metal nanoparticles** under more or  
less severe conditions was studied. For OTPPTS-protected rhodium colloid  
systems, the colloid stability improved by increasing the P/Rh molar  
ratio. Lowering the pressure also improved stability, but led to lower

catalytic activity while temp. had no effect on stability but rather on the formation of the active species. The PVP(K15)-Rh colloids can be re-used more than one time at 50.degree. and 0.3 MPa without loss of activity, but not the PVP(K30)-Rh and PVA-Rh colloids. Recycling of the catalytic phase provided unchanged turnover frequencies. Suppression of co-solvent did not result in noticeable changes in activity, indicating that the reaction takes place at the interface. The MET micrographs of the catalytic phase of the OTPPTS-Rh system after use in **hydrogenation** shows 4 nm particles contg. rhodium oxide and metallic rhodium. IR spectroscopy anal. of the PVP-Rh colloids shows geminal and terminal Rh-CO species with a preponderance of the geminal ones.

RE.CNT 15      THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
                  ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 115 and carbohydrate  
       108745 CARBOHYDRATE  
       116172 CARBOHYDRATES  
       176447 CARBOHYDRATE  
               (CARBOHYDRATE OR CARBOHYDRATES)

L18            0 L15 AND CARBOHYDRATE

=> s 115 and fructose  
       53219 FRUCTOSE  
       82 FRUCTOSES  
       53232 FRUCTOSE  
               (FRUCTOSE OR FRUCTOSES)

L19            0 L15 AND FRUCTOSE

=> s reduction  
       262772 REDUCTION  
       5081 REDUCTIONS  
       265419 REDUCTION  
               (REDUCTION OR REDUCTIONS)  
       742417 REDN  
       39209 REDNS  
       766916 REDN  
               (REDN OR REDNS)

L20            891539 REDUCTION  
                       (REDUCTION OR REDN)

=> s 120 and catalyst  
       601917 CATALYST  
       585163 CATALYSTS  
       767433 CATALYST  
               (CATALYST OR CATALYSTS)

L21            68034 L20 AND CATALYST

=> s 121 and metal  
       1371087 METAL  
       685692 METALS  
       1661953 METAL  
               (METAL OR METALS)

L22            15952 L21 AND METAL

=> s 122 and nanoparticle  
       11088 NANOPARTICLE  
       17675 NANOPARTICLES  
       18714 NANOPARTICLE  
               (NANOPARTICLE OR NANOPARTICLES)

L23            129 L22 AND NANOPARTICLE

=> s 123 and polymer

849461 POLYMER  
708926 POLYMERS  
1158743 POLYMER  
(POLYMER OR POLYMERS)  
L24 36 L23 AND POLYMER

=> s l24 and aldehyde  
89500 ALDEHYDE  
84224 ALDEHYDES  
139257 ALDEHYDE  
(ALDEHYDE OR ALDEHYDES)  
L25 0 L24 AND ALDEHYDE

=> s l24 and carbohydrate  
108745 CARBOHYDRATE  
116172 CARBOHYDRATES  
176447 CARBOHYDRATE  
(CARBOHYDRATE OR CARBOHYDRATES)  
L26 0 L24 AND CARBOHYDRATE

=> s l24 and alcohol  
165042 ALCOHOL  
124445 ALCOHOLS  
270252 ALCOHOL  
(ALCOHOL OR ALCOHOLS)  
503294 ALC  
162712 ALCS  
587755 ALC  
(ALC OR ALCS)  
681787 ALCOHOL  
(ALCOHOL OR ALC)  
L27 6 L24 AND ALCOHOL

=> dis l27 1-6 bib abs

L27 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 2001:65241 CAPLUS

DN 134:268058

TI Synthesis and functionalities of poly(N-vinylalkyloamide). XIII.  
Temperature and pH dependence of the catalytic activity of colloidal  
platinum **nanoparticles** stabilized by poly[(vinylamine)-co-(N-  
vinylisobutyramide)]

AU Chen, Chun-Wei; Arai, Kumiko; Yamamoto, Kazuya; Serizawa, Takeshi; Akashi,  
Mitsuru

CS Dep. Applied Chem. Chemical Eng., Kagoshima Univ., Kagoshima, 890-0065,  
Japan

SO Macromolecular Chemistry and Physics (2000), 201(18), 2811-2819  
CODEN: MCHPES; ISSN: 1022-1352

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB Colloidal platinum **nanoparticles** in the size range of 5-35 .ANG.  
have been successfully prepd. in water at room temp. by NaBH4 **redn**  
. of ionic platinum in the presence of poly[(vinylamine)-co-(N-  
vinylisobutyramide)] (PVAm-co-PNVIBA). The temp.- and pH-responsive  
copolymer was used for the first time as the stabilizer of colloidal  
**metal** particles. Three PVAm-co-PNVIBA copolymers with PVAm  
contents of 4.1, 8.3, and 19.8 mol-% were examd. The particle size and  
morphol. of the platinum colloids varied with the copolymer compn., as  
confirmed by TEM measurements. The **polymer**-stabilized Pt  
**nanoparticles** pptd. on heating above their crit. flocculation  
temps. (CFTs), which were strongly dependent on the soln. pH and the  
copolymer compn. The CFTs were 0.2-1.6.degree.C lower than the lower  
crit. soln. temps. (LCSTs) of the copolymers free in water and the

differences increased with increasing PVAm content. The catalytic activity of the Pt **nanoparticles** was investigated in the aq. hydrogenation of allyl **alc.** It was found that the activity was regulated through temp.- and pH-induced phase sepn. The PVAm content also strongly effected the catalytic activity and the morphol. of phase sepd. **catalysts.** With a PVAm content of 4.1 mol%, the colloidal platinum sol reversibly changed its catalytic activity with changes in temp.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 2000:492945 CAPLUS

DN 133:95064

TI Preparation and catalysis of **polymer**-protected coinage **metal** nanoclusters

AU Shiraishi, Yukihide; Hirakawa, Kazutaka; Toshima, Naoki

CS Department of Materials Science and Engineering, Science University of Tokyo in Yamaguchi, Onoda-shi, Yamaguchi, 756-0884, Japan

SO Kobunshi Ronbunshu (2000), 57(6), 346-355

CODEN: KBRBA3; ISSN: 0386-2186

PB Kobunshi Gakkai

DT Journal

LA Japanese

AB Prepn., characterization and catalysis of **polymer**-protected coinage **metal** nanoclusters were investigated, esp. from the viewpoint of bimetallization. Poly (N-vinyl-2-pyrrolidone) (PVP)-protected Au/Rh bimetallic nanoclusters with an av. diam. of 2.6 nm were prepd. by **alc. redn.** of HAuCl<sub>4</sub> and RhCl in the presence of PVP. The Au/Rh bimetallic nanoclusters having an Au-core/Rh-shell structure work as more active **catalysts** for visible-light-induced hydrogen generation from water than the corresponding Au and Rh monometallic nanoclusters. Ag nanoclusters protected by poly(sodium acrylate) (PSA) were prepd. by UV irradiation of an **alc.**-water soln. of silver perchlorate in the presence of PSA and were applied to the **catalyst** for oxidation of ethylene. The activity of Ag nanoclusters thus prepd. remarkably increases with increasing the reaction temp. Addition of cesium and rhenium ions increases the catalytic activity of PSA-Ag nanoclusters as well. Thus, PSA plays an important role in this system. PVP-protected Cu/Pd alloy nanoclusters were prepd. by **redn.** in glycol at 198.degree.C, revealing high activity as a **catalyst** for hydration of acrylonitrile to acrylamide as well as for partial hydrogenation of 1,3-cyclooctadiene to cyclooctene.

L27 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1999:745198 CAPLUS

DN 132:24789

TI **Polymer**-protected bimetallic nanocluster **catalysts** having core/shell structure for accelerated electron transfer in visible-light-induced hydrogen generation

AU Toshima, Naoki; Hirakawa, Kazutaka

CS Department of Materials Science and Engineering, Science University of Tokyo in Yamaguchi, Onoda, 756-0884, Japan

SO Polymer Journal (Tokyo) (1999), 31(11-2), 1127-1132

CODEN: POLJB8; ISSN: 0032-3896

PB Society of Polymer Science, Japan

DT Journal

LA English

AB A visible-light-induced electron transfer system was constructed by using tris(bipyridine)ruthenium(III), Me viologen, EDTA and colloidal **metal** nanocluster as photosensitizer, electron relay, sacrificial electron donor and reductive **catalyst**, resp. **Polymer**-protected Au, Pt, Pd, Rh and Ru monometallic, and Au/Pt, Au/Pd, Au/Rh and

Pt/Ru bimetallic nanocluster **catalysts** were prepd. as colloidal dispersions by **alc.-redn.**, and applied to the **catalysts** for the above reaction. The rate of electron transfer from Me viologen cation radical to the **metal** nanocluster **catalyst** is proportional to the hydrogen generation rate at a steady state. All the electrons accepted by **metal** nanocluster **catalysts** are used for the hydrogen generation. Both electron transfer and hydrogen generation rates increase when the colloidal dispersions of bimetallic nanoclusters are used in place of the corresponding monometallic nanoclusters. An Au-core/Rh-shell structure has been suggested by UV-Vis spectrum measurement for Au/Rh bimetallic nanoclusters.

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1999:529466 CAPLUS

DN 131:162019

TI Immobilization of palladium **nanoparticles** on latex supports and their potential for catalytic applications

AU Mayer, Andrea B. R.; Mark, James E.

CS Department Chemistry, Univ. Cincinnati, Cincinnati, OH, 45221, USA ✓

SO Angewandte Makromolekulare Chemie (1999), 268, 52-58

CODEN: ANMCBO; ISSN: 0003-3146

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB Pd **nanoparticles** were reduced in the presence of several latex dispersions possessing different hydrophobicities. Various **redn** . methods were investigated, specifically the slower methods of refluxing the **alc.** soln. and the more rapid **redn.** by potassium tetrahydridoborate. In several cases the latexes showed the ability to adsorb and immobilize the Pd **nanoparticles** on their surface. Transmission electron microscopy was employed to show the immobilization of the **metal nanoparticles** on the latex surfaces, and their nanosize dimensions. The latex-metal dispersions showed catalytic activity for the hydrogenation of cyclohexene as a model reaction. A selection of water-sol. protective **polymers** was included to explore whether the **metal nanoparticles** were still immobilized. In the case of the more hydrophobic latexes, the accumulation and immobilization of the **metal nanoparticles** was preserved both before and after their use as hydrogenation **catalysts**.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1999:150983 CAPLUS

DN 130:257756

TI Homogeneous hydrogenation catalysis with monodisperse, dendrimer-encapsulated Pd and Pt **nanoparticles**

AU Zhao, Mingqi; Crooks, Richard M.

CS Department of Chemistry, Texas A and M University, College Station, TX, 77842-3012, USA

SO Angewandte Chemie, International Edition (1999), 38(3), 364-366 ✓ QDI-251

CODEN: ACIEF5; ISSN: 1433-7851

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB In this report we show that composite materials that consist of noble **metal nanoparticles** stabilized within dendrimer interiors are suitable for use as homogeneous hydrogenation **catalysts**. These interesting new materials are prepd. by sorbing PdII or PtII ions into hydroxyl-terminated poly(amidoamine) (PAMAM)

dendrimers (Gn-OH, where Gn represents the nth generation) where they complex with interior amine groups. Subsequent chem. **redn.** of the **metal** ions with BH<sub>4</sub><sup>-</sup> yields dendrimer-encapsulated **metal nanoparticles** that contain the same no. of atoms as were preloaded into the dendrimer initially. The resulting composites are sol. in water and stable, either dry or solvated, for at least several months. Thus, the dendrimer acts as both a template for the prepn. of monodisperse **nanoparticles** and a porous stabilizer. Dendrimer-encapsulated Pd clusters exhibit high catalytic activity for the hydrogenation of alkenes in water. Importantly, the catalytic activity can be controlled by adjusting the size (generation) of the dendrimer; i.e., the dendrimer acts as a "nanofilter" with a synthetically controllable mesh.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1997:274467 CAPLUS

DN 126:318654

TI Platinum nanocatalysts immobilized on latex supports

AU Mayer, Andrea B. R.; Mark, James E.

CS Dep. Chem. and Polymer Res. Center, Univ. Cincinnati, Cincinnati, OH, 54221-0172, USA

SO Journal of Polymer Science, Part B: Polymer Physics (1997), 35(8), 1207-1216

CODEN: JPBPEM; ISSN: 0887-6266

PB Wiley

DT Journal

LA English

AB Several latex dispersions of different hydrophobicity were investigated with respect to their ability to adsorb platinum **nanoparticles** that had been reduced in their presence. Two **redn.** methods were tested, specifically the slower method of refluxing the **alc.** solns. and the more rapid method of reaction with KBH<sub>4</sub>. The immobilization of the **metal** particles and their nanosize dimensions were demonstrated by transmission electron microscopy and their catalytic activity was tested by the hydrogenation of cyclohexene as a model reaction. Some addnl. immobilized platinum **nanoparticles** were prepd. in the presence of various protective **polymers**. This can lead to various advantages with respect to, for instance, the stability and the catalytic properties of these materials. Even in the presence of such addnl. protective **polymers**, the platinum **nanoparticles** remained immobilized for some of the hydrophobic latexes both before and after catalytic hydrogenations.

=> dis hist

(FILE 'HOME' ENTERED AT 19:57:49 ON 09 OCT 2002)

FILE 'CAPLUS' ENTERED AT 19:58:09 ON 09 OCT 2002

L1 2369625 S OXID?  
L2 169395 S L1 AND AQUEOUS  
L3 24536 S L2 AND CATALYST  
L4 67 S L3 AND NANOPARTICLE  
L5 8 S L4 AND STABILIZ?  
L6 3 S L5 AND ALCOHOL  
L7 1 S L5 AND CARBOHYDRATE  
L8 2 S L5 AND PLATINUM  
L9 150451 S HYDROGENATION  
L10 14512 S L9 AND AQUEOUS  
L11 6442 S L10 AND CATALYST  
L12 1568 S L11 AND METAL  
L13 3 S L12 AND POLYMER (W) STABILIZ?

L14	89	S	L12	AND	POLYMER
L15	5	S	L14	AND	NANOPARTICLE
L16	0	S	L15	AND	ALDEHYDE
L17	2	S	L15	AND	ALCOHOL
L18	0	S	L15	AND	CARBOHYDRATE
L19	0	S	L15	AND	FRUCTOSE
L20	891539	S			REDUCTION
L21	68034	S	L20	AND	CATALYST
L22	15952	S	L21	AND	METAL
L23	129	S	L22	AND	NANOPARTICLE
L24	36	S	L23	AND	POLYMER
L25	0	S	L24	AND	ALDEHYDE
L26	0	S	L24	AND	CARBOHYDRATE
L27	6	S	L24	AND	ALCOHOL

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NEWS 7 Apr 22 BIOSIS Gene Names now available in TOXCENTER  
NEWS 8 Apr 22 Federal Research in Progress (FEDRIP) now available  
NEWS 9 Jun 03 New e-mail delivery for search results now available  
NEWS 10 Jun 10 MEDLINE Reload  
NEWS 11 Jun 10 PCTFULL has been reloaded  
NEWS 12 Jul 02 FOREGE no longer contains STANDARDS file segment  
NEWS 13 Jul 22 USAN to be reloaded July 28, 2002;  
saved answer sets no longer valid  
NEWS 14 Jul 29 Enhanced polymer searching in REGISTRY  
NEWS 15 Jul 30 NETFIRST to be removed from STN  
NEWS 16 Aug 08 CANCERLIT reload  
NEWS 17 Aug 08 PHARMAMarketLetter(PHARMAML) - new on STN  
NEWS 18 Aug 08 NTIS has been reloaded and enhanced  
NEWS 19 Aug 19 Aquatic Toxicity Information Retrieval (AQUIRE)  
now available on STN  
NEWS 20 Aug 19 IFIPAT, IFICDB, and IFIUDB have been reloaded  
NEWS 21 Aug 19 The MEDLINE file segment of TOXCENTER has been reloaded  
NEWS 22 Aug 26 Sequence searching in REGISTRY enhanced  
NEWS 23 Sep 03 JAPIO has been reloaded and enhanced  
NEWS 24 Sep 16 Experimental properties added to the REGISTRY file  
NEWS 25 Sep 16 Indexing added to some pre-1967 records in CA/CAPLUS  
NEWS 26 Sep 16 CA Section Thesaurus available in CAPLUS and CA  
NEWS 27 Oct 01 CASREACT Enriched with Reactions from 1907 to 1985

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AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002  
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=> s amination  
24906 AMINATION  
249 AMINATIONS  
L1 24959 AMINATION  
(AMINATION OR AMINATIONS)

=> s l1 and reductive  
49778 REDUCTIVE  
4 REDUCTIVES  
49782 REDUCTIVE  
(REDUCTIVE OR REDUCTIVES)  
L2 4959 L1 AND REDUCTIVE

=> s l2 and catalyst  
601917 CATALYST  
585163 CATALYSTS  
767433 CATALYST  
(CATALYST OR CATALYSTS)  
L3 964 L2 AND CATALYST

=> s l3 and metal  
1371087 METAL  
685692 METALS  
1661953 METAL  
(METAL OR METALS)  
L4 209 L3 AND METAL

=> s 14 and alcohol  
165042 ALCOHOL  
124445 ALCOHOLS  
270252 ALCOHOL  
          (ALCOHOL OR ALCOHOLS)  
503294 ALC  
162712 ALCS  
587755 ALC  
          (ALC OR ALCS)  
681787 ALCOHOL  
          (ALCOHOL OR ALC)  
L5          38 L4 AND ALCOHOL

=> s 15 and aqueous  
148293 AQUEOUS  
      1 AQUEOUSES  
148294 AQUEOUS  
      (AQUEOUS OR AQUEOUSES)  
933909 AQ  
      119 AQS  
933982 AQ  
      (AQ OR AQS)  
968682 AQUEOUS  
      (AQUEOUS OR AQ)  
L6          7 L5 AND AQUEOUS

=> dis 16 1-7 bib abs

L6 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2002 ACS  
AN 2002:378142 CAPLUS  
DN 137:93568  
TI Synthesis of Primary Amines: First Homogeneously Catalyzed  
    **Reductive Amination** with Ammonia  
AU Gross, Thoralf; Seayad, Abdul Majeed; Ahmad, Moballigh; Beller, Matthias  
CS Institut fuer Organische Katalyseforschung, Universitaet Rostock e.V.,  
    Rostock, D-18055, Germany  
SO Organic Letters (2002), 4(12), 2055-2058  
    CODEN: ORLEF7; ISSN: 1523-7060  
PB American Chemical Society  
DT Journal  
LA English  
AB The synthesis of primary amines via **reductive amination**  
    of the corresponding carbonyl compds. with **aq.** ammonia is  
    achieved for the first time with sol. transition **metal**  
    complexes. Up to an 86% yield and a 97% selectivity for benzylamines were  
    obtained in the case of various benzaldehydes by using a Rh-  
    **catalyst** together with water-sol. phosphine and ammonium acetate.  
    In the case of aliph. aldehydes, a bimetallic **catalyst** based on  
    Rh/Ir gave improved results.  
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
          ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2002 ACS  
AN 2001:122109 CAPLUS  
DN 134:281120  
TI .alpha.-Ketocarbonyl Peptides: A General Approach to Reactive Resin-Bound  
    Intermediates in the Synthesis of Peptide Isosteres for Protease Inhibitor  
    Screening on Solid Support  
AU Papanikos, Alexandra; Rademann, Jorg; Meldal, Morten  
CS Department of Chemistry, Carlsberg Research Center, Valby, DK-2500, Den.  
SO Journal of the American Chemical Society (2001), 123(10), 2176-2181  
    CODEN: JACSAT; ISSN: 0002-7863  
PB American Chemical Society

DT Journal  
 LA English  
 OS CASREACT 134:281120  
 AB .alpha.-Ketocarbonyl peptides were generated from peptide precursors on solid support via a **metal**-ion-catalyzed transamination. The reaction proceeded to completion within 2 h with glyoxylate as electrophile and copper(II) ions as **catalyst** in an **aq.** acetate buffer at pH 5.5-6.0. The variety of naturally occurring .alpha.-amino acid substrates gave rise to a diverse set of differentially functionalized ketones. The highly reactive terminal keto-carbonyls were prone to aldol-type dimerization and could be transferred into stable moieties by oxime formation, redn. to the **alc.**, or **reductive amination**, resp. The .alpha.-keto-carbonyl peptides were efficient in nucleophilic addn. of C-nucleophiles such as phosphono-ylides and allylsilanes.

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2002 ACS  
 AN 2000:666737 CAPLUS  
 DN 133:254142

TI Catalytic method for modifying carbohydrates, **alcohols**, aldehydes or polyhydroxy compounds  
 IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza  
 PA Sudzucker Aktiengesellschaft, Germany *instant*  
 SO PCT Int. Appl., 45 pp.  
 CODEN: PIXXD2

DT Patent  
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in **aq.** phase is carried out in the presence of **metal catalysts** consisting of polymer-stabilized nanoparticles. A **catalyst** of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the nanoparticles is maintained. For example, activity of an Al<sub>2</sub>O<sub>3</sub>-supported, poly(vinylpyrrolidone)-stabilized Pt colloid **catalyst** (prepn. given) in oxidn. of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al<sub>2</sub>O<sub>3</sub>-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2002 ACS  
 AN 1998:693414 CAPLUS  
 DN 129:275633

TI **Metal catalysts** and preparation of the **catalysts** and (N-substituted) amines  
 IN Muraishi, Teruo; Kato, Kozo  
 PA Mitsui Chemicals Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10287628	A2	19981027	JP 1997-89526	19970408
AB	(N-substituted) amines are prep'd. by treatment of NH <sub>3</sub> , primary amines, or secondary amines with (i) <b>alcs.</b> or (ii) aldehydes and H in the presence of <b>catalysts</b> prep'd. by redn. of malachite- and Al(OH) <sub>3</sub> -free precursors contg. Cu, Al, and Cr, Mn, Fe, Co, Ni, and/or Zn. <b>Aq.</b> soln. contg. Cu(NO <sub>3</sub> ) <sub>2</sub> , Ni(NO <sub>3</sub> ) <sub>2</sub> , and Al(NO <sub>3</sub> ) <sub>3</sub> was treated with <b>aq.</b> Na <sub>2</sub> CO <sub>3</sub> to give hydrotalcite-like substance, which was reduced in lauryl <b>alc.</b> NHMe <sub>2</sub> and H were passed through the <b>catalyst</b> -contg. reactor at 200.degree. over 10 h to give colorless products contg. 91.8% lauryldimethylamine.				

L6 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2002 ACS  
AN 1995:401307 CAPLUS  
DN 122:160152

TI Process for producing amines by **reductive amination** in the presence of a cobalt **catalyst**.  
IN Furutani, Atsushi; Hibi, Takuo; Yamamoto, Michio; Tanaka, Kazuyuki; Tada, Kazuhiro; Fukao, Masami; Suzukamo, Gohfu  
PA Sumitomo Chemical Co., Ltd., Japan  
SO Eur. Pat. Appl., 13 pp.  
CODEN: EPXXDW

DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 623585	A1	19941109	EP 1994-300903	19940208
	EP 623585	B1	19980422		
	R: BE, DE, FR, GB				
	JP 07101910	A2	19950418	JP 1994-6466	19940125
	CA 2115024	AA	19941028	CA 1994-2115024	19940204
	US 5589596	A	19961231	US 1994-194328	19940208
PRAI	JP 1993-101074		19930427		
	JP 1993-180248		19930721		
	JP 1993-180249		19930721		
	JP 1993-196041		19930806		
	JP 1993-197339		19930809		

OS CASREACT 122:160152

AB A process is disclosed for producing amines by **reductive amination** of cyclic ketones or their imino derivs., characterized by use of a cobalt **catalyst** contg. an alk. earth **metal** carbonate and/or lanthanum oxide. The new **catalysts** give high yields, are highly active, and are usable on a com. scale. For example, an **aq.** soln. of Co and Cu nitrates was treated with Ca carbonate, heated to 80.degree., and treated with **aq.** Na carbonate to give a ppt., which was retreated with **aq.** Na carbonate, dried, heated in N at 320.degree., cooled, granulated, and hydrogenated at 280.degree. to give a **catalyst**. 3-Cyano-3,5,5-trimethylcyclohexanone was then passed with MeOH and liq. NH<sub>3</sub> through a first reactor contg. active C at 24.degree. and 150 kg/cm<sup>2</sup>G to give the imine deriv. in 97.7% yield. This was passed through the above **catalyst** in a second reactor at 121.degree. and the same pressure to give 3-aminomethyl-3,5,5-trimethylcyclohexylamine (I) in 99.4% yield, plus minor amts. of 2 byproducts. A comparison **catalyst** without the Cu nitrate or the Ca carbonate gave only 90.7% yield of I in the second step, with 5.8% 3-aminomethyl-3,5,5-trimethylcyclohexyl **alc.** and 3.2% 1,3,3-trimethyl-6-azabicyclo[3.2.1]octane as

byproducts.

L6 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2002 ACS  
AN 1993:603755 CAPLUS  
DN 119:203755  
TI Process for the production of aminopolyols  
IN Beck, Roland Herwig; Kalff, Norbert Johannes; Roeper, Harald W. W.  
PA Cerestar Holding BV, Neth.  
SO Eur. Pat. Appl., 7 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 536939	A1	19930414	EP 1992-308919	19920930
	EP 536939	B1	19960320		
	EP 536939	B2	19990310		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, NL, PT, SE				
	AT 135680	E	19960415	AT 1992-308919	19920930
	ES 2084947	T3	19960516	ES 1992-308919	19920930
PRAI	GB 1991-21279		19911008		

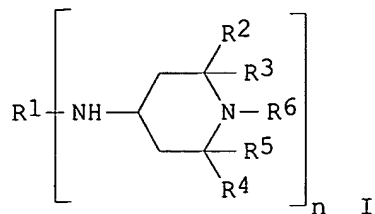
OS CASREACT 119:203755

AB The title process comprises reacting a monosaccharide or a reducing oligosaccharide with NH<sub>3</sub> or an aliph. amine having a replaceable amino hydrogen atom in the presence of H<sub>2</sub> and a base **metal catalyst** and is characterized by the addn. to the reaction medium of a compd. which, under the reaction conditions is capable of providing NH<sub>4</sub><sup>+</sup> in the reaction medium and is not, or does not give rise to, a poison for the base **metal catalyst**. Thus, a mixt. of aq. glucose and NH<sub>4</sub>OAc was hydrogenated over Raney Co with the addn. of liquefied NH<sub>3</sub> at 5 to 100 bar and -40 to 95.degree. to give 83.4 wt.% 1-aminosorbitol, 3.1 wt.% 2-aminosorbitol, 3.5 wt.% 2-aminomannitol, 2.2 wt.% sorbitol, and 2.6 wt.% disorbitylamine.

L6 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2002 ACS  
AN 1987:5981 CAPLUS  
DN 106:5981  
TI 2,2,6,6-Tetraalkyl-4-piperidylamines  
IN Malz, Russell E., Jr.; Greenfield, Harold  
PA Uniroyal Chemical Co., Inc., USA  
SO U.S., 5 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4607104	A	19860819	US 1985-754378	19850711
IN	171623	A	19921128	IN 1986-DE494	19860604
ZA	8604298	A	19870225	ZA 1986-4298	19860609
BR	8602855	A	19870317	BR 1986-2855	19860619
EP	208455	A1	19870114	EP 1986-304837	19860624
EP	208455	B1	19910130		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT	60583	E	19910215	AT 1986-304837	19860624
CA	1283108	A1	19910416	CA 1986-513288	19860708
CN	86104693	A	19870225	CN 1986-104693	19860709
CN	1005976	B	19891206		
AU	8660042	A1	19870115	AU 1986-60042	19860710
AU	589196	B2	19891005		
JP	62030757	A2	19870209	JP 1986-162917	19860710
JP	05002669	B4	19930113		
ES	2000661	A6	19880316	ES 1986-246	19860711

PRAI US 1985-754378 19850711  
 EP 1986-304837 19860624  
 OS CASREACT 106:5981  
 GI



AB The title compds. I (R1 = C1-18 alkyl, C5-6 cycloalkyl, C7-9 aralkyl; R2-5 = C1-8 alkyl; R6 = H, OH, C1-8 alkyl, alkoxy, C2-10 alkylcarbonyl, arylcarbonyl; n = 1-4), useful as UV stabilizers, are prepd. by **reductive amination** over pyrophoric **catalysts** (Pt, Ni or Co) with reduced fire hazard by using H2O or **aq.** **alcs.** as solvents. Thus, 34.8 g H2N(CH2)6NH2, 97.65 g 2,2,6,6-tetramethyl-4-piperidone, 120 mL water, and 1.5 g 5% Pt/C were heated at 80.degree./600-800 psig with H to give 89% N,N'-bis(2,2,6,6-tetramethyl-4-piperidyl)hexamethylenediamine , vs. 93% with MeOH instead of H2O.

=> s l6 and promoter  
 126112 PROMOTER  
 43463 PROMOTERS  
 143397 PROMOTER  
 (PROMOTER OR PROMOTERS)  
 L7 0 L6 AND PROMOTER

=> dis hist

(FILE 'HOME' ENTERED AT 20:13:40 ON 09 OCT 2002)

FILE 'CAPLUS' ENTERED AT 20:13:50 ON 09 OCT 2002

L1 24959 S AMINATION  
 L2 4959 S L1 AND REDUCTIVE  
 L3 964 S L2 AND CATALYST  
 L4 209 S L3 AND METAL  
 L5 38 S L4 AND ALCOHOL  
 L6 7 S L5 AND AQUEOUS  
 L7 0 S L6 AND PROMOTER

=> s l4 and aldehyde  
 89500 ALDEHYDE  
 84224 ALDEHYDES  
 139257 ALDEHYDE  
 (ALDEHYDE OR ALDEHYDES)  
 L8 35 L4 AND ALDEHYDE

=> s l8 and aqueous  
 148293 AQUEOUS  
 1 AQUEOUSES  
 148294 AQUEOUS  
 (AQUEOUS OR AQUEOUSES)  
 933909 AQ  
 119 AQS  
 933982 AQ

(AQ OR AQS)  
968682 AQUEOUS  
(AQUEOUS OR AQ)

L9 6 L8 AND AQUEOUS

=> dis 19 1-9 bib abs

L9 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2002 ACS  
AN 2002:378142 CAPLUS  
DN 137:93568  
TI Synthesis of Primary Amines: First Homogeneously Catalyzed  
**Reductive Amination** with Ammonia  
AU Gross, Thoralf; Seayad, Abdul Majeed; Ahmad, Moballigh; Beller, Matthias  
CS Institut fuer Organische Katalyseforschung, Universitaet Rostock e.V.,  
Rostock, D-18055, Germany  
SO Organic Letters (2002), 4(12), 2055-2058 *delete - not good*  
CODEN: ORLEF7; ISSN: 1523-7060  
PB American Chemical Society  
DT Journal  
LA English  
AB The synthesis of primary amines via **reductive amination**  
of the corresponding carbonyl compds. with **aq.** ammonia is  
achieved for the first time with sol. transition **metal**  
complexes. Up to an 86% yield and a 97% selectivity for benzylamines were  
obtained in the case of various benzaldehydes by using a Rh-  
**catalyst** together with water-sol. phosphine and ammonium acetate.  
In the case of aliph. **aldehydes**, a bimetallic **catalyst**  
based on Rh/Ir gave improved results.  
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:666737 CAPLUS  
DN 133:254142  
TI Catalytic method for modifying carbohydrates, alcohols, **aldehydes**  
or polyhydroxy compounds  
IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter;  
Haji Begli, Alireza  
PA Sudzucker Aktiengesellschaft, Germany *instant*  
SO PCT Int. Appl., 45 pp.  
CODEN: PIXXD2  
DT Patent  
LA German  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in **aq.** phase is  
carried out in the presence of **metal catalysts**  
consisting of polymer-stabilized nanoparticles. A **catalyst** of  
this type is not deactivated by the conversion reaction as long as the  
stabilizing interaction between the polymer and the nanoparticles is  
maintained. For example, activity of an Al<sub>2</sub>O<sub>3</sub>-supported,  
poly(vinylpyrrolidone)-stabilized Pt colloid **catalyst** (prepn.

given) in oxidn. of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al<sub>2</sub>O<sub>3</sub>-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1998:693414 CAPLUS

DN 129:275633

TI **Metal catalysts** and preparation of the **catalysts** and (N-substituted) amines

IN Muraishi, Teruo; Kato, Kozo

PA Mitsui Chemicals Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 10287628	A2	19981027	JP 1997-89526	19970408
AB	(N-substituted) amines are prepd. by treatment of NH <sub>3</sub> , primary amines, or secondary amines with (i) alcs. or (ii) <b>aldehydes</b> and H in the presence of <b>catalysts</b> prepd. by redn. of malachite- and Al(OH) <sub>3</sub> -free precursors contg. Cu, Al, and Cr, Mn, Fe, Co, Ni, and/or Zn. Aq. soln. contg. Cu(NO <sub>3</sub> ) <sub>2</sub> , Ni(NO <sub>3</sub> ) <sub>2</sub> , and Al(NO <sub>3</sub> ) <sub>3</sub> was treated with aq. Na <sub>2</sub> CO <sub>3</sub> to give hydrotalcite-like substance, which was reduced in lauryl alc. NHMe <sub>2</sub> and H were passed through the <b>catalyst</b> -contg. reactor at 200.degree. over 10 h to give colorless products contg. 91.8% lauryldimethylamine.				

L9 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1991:535511 CAPLUS

DN 115:135511

TI Process for the preparation of N,N-dimethylamines

IN Kampmann, Detlef; Kniep, Claus; Lukas, Rainer

PA Hoechst A.-G., Germany

SO Ger. Offen., 6 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

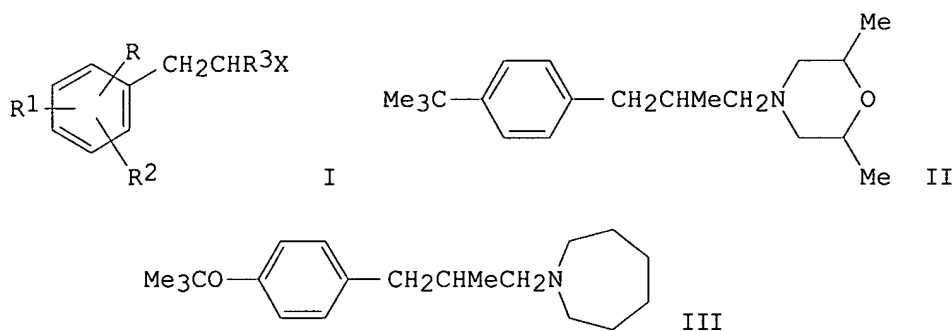
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	DE 3942793	A1	19910627	DE 1989-3942793	19891223
	EP 435072	A2	19910703	EP 1990-123912	19901212
	EP 435072	A3	19920304		
	EP 435072	B1	19940427		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	AT 104950	E	19940515	AT 1990-123912	19901212
	ES 2055855	T3	19940901	ES 1990-123912	19901212
	CA 2032362	AA	19910624	CA 1990-2032362	19901214
	JP 06219993	A2	19940809	JP 1990-402867	19901217
	JP 07072159	B4	19950802		
	AU 9068373	A1	19910627	AU 1990-68373	19901221
	AU 634007	B2	19930211		
PRAI	DE 1989-3942793		19891223		
	EP 1990-123912		19901212		
AB	The continuous prepn. of N,N-dimethylamines by the reaction of <b>aldehydes</b> with Me <sub>2</sub> NH and hydrogen under pressure at high temp. in the presence of Ni, Co, Cu, Mn, Fe, Rh, Pd and/or Pt-contg. hydrogenation <b>catalysts</b> is claimed. After remaining starting material (Me <sub>2</sub> NH) and hydrogen are removed, 0.1-25% by wt. HCHO or HCHO-forming substance are added and the mixt. is distd. This process permits nearly complete				



removal of secondary N-methylamines which are formed as by products. A reactor contg. 300 mL **catalyst** RCH Ni52/35 (tablets; Ni **catalyst** on kieselguhr) was filled with Me2NBu and then charged with PrCHO (65 mL) and Me2NH (200 mL) at 105-110.degree. and 8 MPa and hydrogen was charged at 34 L/h; remaining hydrogen and Me2NH were removed and during the subsequent distn. 37% **aq.** HCHO (.apprx.3% with respect to Me2NBu) was fed into the crude product mixt. at the bottom of the column. The distillate contained 99.65% by wt. Me2NBu and 0.02% by wt. MeNHBu. Omission of feed of **aq.** HCHO gave a distillate contg. 98.09% by wt. Me2NBu and 1.22% by wt. MeNHBu.

L9 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2002 ACS  
 AN 1982:616038 CAPLUS  
 DN 97:216038  
 TI Aromatic **aldehydes** and/or amines  
 IN Gramlich, Walter; Heilen, Gerd; Mercker, Hans Jochen; Siegel, Hardo  
 PA BASF A.-G. , Fed. Rep. Ger.  
 SO Ger. Offen., 13 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3105446	A1	19820902	DE 1981-3105446	19810214
	EP 58326	A1	19820825	EP 1982-100670	19820130
	EP 58326	B1	19840606		
	R: CH, DE, FR, GB, NL				
	JP 57163334	A2	19821007	JP 1982-19006	19820210
PRAI	DE 1981-3105446		19810214		
GI					



AB I (R, R1, R2 = H, C1-8 alkyl, C4-7 cycloalkyl, C1-5 alkoxy, OH, tertiary amino, etc.; R3 = H, C1-10 alkyl, etc.; X = CHO or NR4R5; R4, R5 = C1-10 alkyl or R4R5N = 5-7-membered heterocycle) were prepd. by aldol condensation and hydrogenation or **reductive amination**. Thus, 4-Me3CC6H4CHO, EtCHO, MeOH, and **aq.** NaOH first at 30-40.degree. under N, then at 110.degree. under 2 bar H (**metal** oxide **catalyst**) gave 4-Me3CC6H4CH2CHMeCHO. Similarly, but with morpholine or hexamethylenimine present in the 2nd step, the reaction gave II or III.

L9 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2002 ACS  
 AN 1982:199072 CAPLUS  
 DN 96:199072  
 TI N-Alkylalkylenediamines  
 IN Tahara, Susumu; Nishihira, Keigo; Miyatake, Takashi; Sawada, Hiroyuki; Kita, Junichiro

PA Ube Industries, Ltd. , Japan  
SO Ger. Offen., 13 pp.  
CODEN: GWXXBX  
DT Patent  
LA German  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3128810	A1	19820318	DE 1981-3128810	19810721
	JP 57035545	A2	19820226	JP 1980-111590	19800813
	JP 60033423	B4	19850802		
	US 4373107	A	19830208	US 1981-286030	19810722
	GB 2082172	A	19820303	GB 1981-22958	19810724
	GB 2082172	B2	19840510		
PRAI	JP 1980-111590		19800813		

AB N-Alkylalkylenediamines were prepd. by gradual addn. of an aliph. **aldehyde** to an alkylenediamine in an org. solvent over a Pt group **metal** in an atm. of H under pressure. Thus, a mixt. of 37 g 90% **aq.** AcH and 100 mL MeOH was added over 8 h to 45 g H<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> (I), 2 g 5% Pd-C, and 100 mL MeOH in a 0.5 L autoclave at 100.degree./7 bar H overpressure, and the mixt. heated as above 4 h to give 40.9% conversion of I with 78.9% selectivity to EtNHCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>. not aqueous

=> s 14 and carbohydrate  
108745 CARBOHYDRATE  
116172 CARBOHYDRATES  
176447 CARBOHYDRATE  
(CARBOHYDRATE OR CARBOHYDRATES)  
L10 2 L4 AND CARBOHYDRATE

=> dis 110 1-2 bib abs

L10 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:666737 CAPLUS  
DN 133:254142  
TI Catalytic method for modifying **carbohydrates**, alcohols,  
aldehydes or polyhydroxy compounds  
IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter;  
Haji Begli, Alireza  
PA Sudzucker Aktiengesellschaft, Germany  
SO PCT Int. Appl., 45 pp.  
CODEN: PIXXD2  
DT Patent  
LA German  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in aq. phase is carried out in the presence of **metal catalysts** consisting of polymer-stabilized nanoparticles. A **catalyst** of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the nanoparticles is maintained. For

example, activity of an Al<sub>2</sub>O<sub>3</sub>-supported, poly(vinylpyrrolidone)-stabilized Pt colloid **catalyst** (prepn. given) in oxidn. of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al<sub>2</sub>O<sub>3</sub>-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 1997:530000 CAPLUS

DN 127:150351

TI **Metal-catalyzed oxidation and reduction of carbohydrates**

AU Abbadi, A.; Van Bekkum, H.

CS Laboratory of Organic Chemistry and Catalysis, Delft University of Technology, Delft, 2628 BL, Neth.

SO Carbohydrates as Organic Raw Materials III, developed from a Workshop, Wageningen, Nov. 28-29, 1994 (1996), Meeting Date 1994, 37-65. Editor(s): Van Bekkum, Herman; Roeper, Harald; Voragen, Fons. Publisher: VCH, Weinheim, Germany.

CODEN: 64UXAZ

DT Conference; General Review

LA English

AB A review with 210 refs. on **metal-catalyzed oxidn.** and hydrogenation of **carbohydrates** is presented. Bi-promoted Pd is presently the **catalyst** of choice for the oxidn. of aldoses to aldonic acids. Selective oxidn. at C-2 of aldonic acids to 2-keto acids can be achieved by applying similarly promoted Pt in weakly acidic medium. The noble **metal-catalyzed oxidn.** of primary alc. groups still needs improvement; best results are obtained in a continuous process using supported Pt and operating at low O concn. Carbonyl group hydrogenation is generally performed over Ni **catalysts**, but Ru **catalysts** are also used. Mainly Ni and Pt **catalysts** are applied for **reductive amination** of **carbohydrates**. Finally, **carbohydrate** hydrogenolysis under severe conditions to give glycerol and 1,2-propanediol is discussed.

=> dis hist

(FILE 'HOME' ENTERED AT 20:13:40 ON 09 OCT 2002)

FILE 'CAPLUS' ENTERED AT 20:13:50 ON 09 OCT 2002

L1 24959 S AMINATION  
L2 4959 S L1 AND REDUCTIVE  
L3 964 S L2 AND CATALYST  
L4 209 S L3 AND METAL  
L5 38 S L4 AND ALCOHOL  
L6 7 S L5 AND AQUEOUS  
L7 0 S L6 AND PROMOTER  
L8 35 S L4 AND ALDEHYDE  
L9 6 S L8 AND AQUEOUS  
L10 2 S L4 AND CARBOHYDRATE

=> s 16 and electrodialysis

9460 ELECTRODIALYSIS

17 ELECTRODIALYSES

9465 ELECTRODIALYSIS

(ELECTRODIALYSIS OR ELECTRODIALYSES)

L11 0 L6 AND ELECTRODIALYSIS

=> s 19 and electrodialysis

9460 ELECTRODIALYSIS

17 ELECTRODIALYSES

9465 ELECTRODIALYSIS

(ELECTRODIALYSIS OR ELECTRODIALYSES)

L12 0 L9 AND ELECTRODIALYSIS

=> s 14 and nanoparticle

11088 NANOPARTICLE

17675 NANOPARTICLES

18714 NANOPARTICLE

(NANOPARTICLE OR NANOPARTICLES)

L13 1 L4 AND NANOPARTICLE

=> dis 113 bib abs

L13 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

AN 2000:666737 CAPLUS

DN 133:254142

TI Catalytic method for modifying carbohydrates, alcohols, aldehydes or polyhydroxy compounds

IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza

PA Sudzucker Aktiengesellschaft, Germany

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in aq. phase is carried out in the presence of **metal catalysts** consisting of polymer-stabilized **nanoparticles**. A **catalyst** of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the **nanoparticles** is maintained. For example, activity of an Al<sub>2</sub>O<sub>3</sub>-supported, poly(vinylpyrrolidone)-stabilized Pt colloid **catalyst** (prepn. given) in oxidn. of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al<sub>2</sub>O<sub>3</sub>-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 14 and alloy

564477 ALLOY

443476 ALLOYS

720959 ALLOY

(ALLOY OR ALLOYS)

L14 5 L4 AND ALLOY

=> s 114 and alcohol

165042 ALCOHOL

124445 ALCOHOLS

270252 ALCOHOL

(ALCOHOL OR ALCOHOLS)

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503294 ALC
162712 ALCS
587755 ALC
      (ALC OR ALCS)
681787 ALCOHOL
      (ALCOHOL OR ALC)
L15      0 L14 AND ALCOHOL

=> s metal
      1371087 METAL
      685692 METALS
L16      1661953 METAL
      (METAL OR METALS)

=> s l16 and catalyst
      601917 CATALYST
      585163 CATALYSTS
      767433 CATALYST
      (CATALYST OR CATALYSTS)
L17      140657 L16 AND CATALYST

=> s l17 and nanoparticle
      11088 NANOPARTICLE
      17675 NANOPARTICLES
      18714 NANOPARTICLE
      (NANOPARTICLE OR NANOPARTICLES)
L18      593 L17 AND NANOPARTICLE

=> s l18 and polymer
      849461 POLYMER
      708926 POLYMERS
      1158743 POLYMER
      (POLYMER OR POLYMERS)
L19      108 L18 AND POLYMER

=> s l19 and stabiliz?
      354798 STABILIZ?
L20      30 L19 AND STABILIZ?

=> s l20 and oxidat?
      501238 OXIDAT?
      626498 OXIDN
      8025 OXIDNS
      628149 OXIDN
      (OXIDN OR OXIDNS)
      862535 OXIDAT?
      (OXIDAT? OR OXIDN)
L21      7 L20 AND OXIDAT?

=> s l21 and aldehyde
      89500 ALDEHYDE
      84224 ALDEHYDES
      139257 ALDEHYDE
      (ALDEHYDE OR ALDEHYDES)
L22      1 L21 AND ALDEHYDE

=> dis l21 bib abs

L21 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2002 ACS
AN 2002:720926 CAPLUS
DN 137:222515
TI Catalysis by gold nanoparticles
AU Grisel, Ruud; Weststrate, Kees-Jan; Gluhoi, Andrea; Nieuwenhuys, Bernard
E.

```

CS Leiden Institute of Chemistry, Leiden University, Leiden, 2300, Neth.  
 SO Gold Bulletin (London, United Kingdom) (2002), 35(2), 39-45  
 CODEN: GOBUFW; ISSN: 1027-8591  
 PB World Gold Council  
 DT Journal; General Review  
 LA English  
 AB A review; gold **catalysts** have superior activity in CO and other **oxidns.** at low temps. Both a small (.apprx. 5nm) particle size and the presence of a partly reducible oxide (ceria or a transition **metal** oxide) have a beneficial effect on the **catalyst** performance. The present paper reviews our recent studies focused on understanding the specific role of the Au particle size and that of the oxide (MO). Our personal viewpoint on gold catalysis is outlined. The effects of Au particle size and of the oxidic additive are distinguished by using several alumina-supported gold **catalysts** having different gold particle sizes and various oxidic additives. The most active **catalyst** in CO **oxidn.** is the multicomponent **catalyst** Au/MgO/MnOx/Al<sub>2</sub>O<sub>3</sub> with MgO being a **stabilizer** for the Au particle size and MnOx being the cocatalyst. This **catalyst** also exhibits good performance in selective **oxidn** . of CO in a hydrogen atm., a reaction relevant for the development of **polymer** electrolyte fuel cell technol.

=> s l21 and alcohol  
 165042 ALCOHOL  
 124445 ALCOHOLS  
 270252 ALCOHOL  
 (ALCOHOL OR ALCOHOLS)  
 503294 ALC  
 162712 ALCS  
 587755 ALC  
 (ALC OR ALCS)  
 681787 ALCOHOL  
 (ALCOHOL OR ALC)  
 L23 1 L21 AND ALCOHOL

=> dis l23 bib abs

L23 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS  
 AN 2000:666737 CAPLUS  
 DN 133:254142  
 TI Catalytic method for modifying carbohydrates, **alcohols**, aldehydes or polyhydroxy compounds  
 IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza  
 PA Sudzucker Aktiengesellschaft, Germany  
 SO PCT Int. Appl., 45 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		

WO 2000-EP2351 W 20000316

AB Industrial conversion of the title compds. in aq. phase is carried out in the presence of **metal catalysts** consisting of **polymer-stabilized nanoparticles**. A **catalyst** of this type is not deactivated by the conversion reaction as long as the **stabilizing** interaction between the **polymer** and the **nanoparticles** is maintained. For example, activity of an Al<sub>2</sub>O<sub>3</sub>-supported, poly(vinylpyrrolidone)-**stabilized** Pt colloid **catalyst** (prepn. given) in **oxidn.** of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al<sub>2</sub>O<sub>3</sub>-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s l21 and carbohydrate  
108745 CARBOHYDRATE  
116172 CARBOHYDRATES  
176447 CARBOHYDRATE  
(CARBOHYDRATE OR CARBOHYDRATES)  
L24 1 L21 AND CARBOHYDRATE

=> s l21 and fructose  
53219 FRUCTOSE  
82 FRUCTOSES  
53232 FRUCTOSE  
(FRUCTOSE OR FRUCTOSES)  
L25 1 L21 AND FRUCTOSE

=> dis l25 bib abs

L25 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:666737 CAPLUS  
DN 133:254142  
TI Catalytic method for modifying carbohydrates, alcohols, aldehydes or polyhydroxy compounds  
IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza  
PA Sudzucker Aktiengesellschaft, Germany  
SO PCT Int. Appl., 45 pp.  
CODEN: PIXXD2  
DT Patent  
LA German  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in aq. phase is carried out in the presence of **metal catalysts** consisting of **polymer-stabilized nanoparticles**. A **catalyst** of this type is not deactivated by the conversion reaction as long as the **stabilizing** interaction between the **polymer** and the **nanoparticles** is maintained. For

example, activity of an Al<sub>2</sub>O<sub>3</sub>-supported, poly(vinylpyrrolidone)-  
**stabilized** Pt colloid **catalyst** (prepn. given) in  
**oxidn.** of sorbose with O remained unchanged after 10 repeated  
expts. whereas the activity of a customary Al<sub>2</sub>O<sub>3</sub>-supported Pt  
**catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6        THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> dis hist

(FILE 'HOME' ENTERED AT 20:13:40 ON 09 OCT 2002)

FILE 'CAPLUS' ENTERED AT 20:13:50 ON 09 OCT 2002

L1	24959 S AMINATION
L2	4959 S L1 AND REDUCTIVE
L3	964 S L2 AND CATALYST
L4	209 S L3 AND METAL
L5	38 S L4 AND ALCOHOL
L6	7 S L5 AND AQUEOUS
L7	0 S L6 AND PROMOTER
L8	35 S L4 AND ALDEHYDE
L9	6 S L8 AND AQUEOUS
L10	2 S L4 AND CARBOHYDRATE
L11	0 S L6 AND ELECTRODIALYSIS
L12	0 S L9 AND ELECTRODIALYSIS
L13	1 S L4 AND NANOPARTICLE
L14	5 S L4 AND ALLOY
L15	0 S L14 AND ALCOHOL
L16	1661953 S METAL
L17	140657 S L16 AND CATALYST
L18	593 S L17 AND NANOPARTICLE
L19	108 S L18 AND POLYMER
L20	30 S L19 AND STABILIZ?
L21	7 S L20 AND OXIDAT?
L22	1 S L21 AND ALDEHYDE
L23	1 S L21 AND ALCOHOL
L24	1 S L21 AND CARBOHYDRATE
L25	1 S L21 AND FRUCTOSE

=> s l20 and hydrogenation or reduction

	150203 HYDROGENATION
	1908 HYDROGENATIONS
	150451 HYDROGENATION
	(HYDROGENATION OR HYDROGENATIONS)
	262772 REDUCTION
	5081 REDUCTIONS
	265419 REDUCTION
	(REDUCTION OR REDUCTIONS)
	742417 REDN
	39209 REDNS
	766916 REDN
	(REDN OR REDNS)
	891539 REDUCTION
	(REDUCTION OR REDN)
L26	891546 L20 AND HYDROGENATION OR REDUCTION

=> s l20 and hydrogenation

	150203 HYDROGENATION
	1908 HYDROGENATIONS
	150451 HYDROGENATION
	(HYDROGENATION OR HYDROGENATIONS)
L27	19 L20 AND HYDROGENATION



=> s 127 and aldehyde  
89500 ALDEHYDE  
84224 ALDEHYDES  
139257 ALDEHYDE  
(ALDEHYDE OR ALDEHYDES)  
L28 0 L27 AND ALDEHYDE

=> s 127 and alcohol  
165042 ALCOHOL  
124445 ALCOHOLS  
270252 ALCOHOL  
(ALCOHOL OR ALCOHOLS)  
503294 ALC  
162712 ALCS  
587755 ALC  
(ALC OR ALCS)  
681787 ALCOHOL  
(ALCOHOL OR ALC)  
L29 3 L27 AND ALCOHOL

=> dis 129 1-3 bib abs

L29 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2001:65241 CAPLUS

DN 134:268058

TI Synthesis and functionalities of poly(N-vinylalkyloamide). XIII.  
Temperature and pH dependence of the catalytic activity of colloidal  
platinum **nanoparticles stabilized by**  
poly[(vinylamine)-co-(N-vinylisobutyramide)]  
AU Chen, Chun-Wei; Arai, Kumiko; Yamamoto, Kazuya; Serizawa, Takeshi; Akashi,  
Mitsuru  
CS Dep. Applied Chem. Chemical Eng., Kagoshima Univ., Kagoshima, 890-0065,  
Japan  
SO Macromolecular Chemistry and Physics (2000), 201(18), 2811-2819 *date*  
CODEN: MCHPES; ISSN: 1022-1352  
PB Wiley-VCH Verlag GmbH  
DT Journal  
LA English

AB Colloidal platinum **nanoparticles** in the size range of 5-35 .ANG.  
have been successfully prepd. in water at room temp. by NaBH<sub>4</sub> redn. of  
ionic platinum in the presence of poly[(vinylamine)-co-(N-  
vinylisobutyramide)] (PVAm-co-PNVIBA). The temp.- and pH-responsive  
copolymer was used for the first time as the **stabilizer** of  
colloidal **metal** particles. Three PVAm-co-PNVIBA copolymers with  
PVAm contents of 4.1, 8.3, and 19.8 mol-% were examd. The particle size  
and morphol. of the platinum colloids varied with the copolymer compn., as  
confirmed by TEM measurements. The **polymer-stabilized**  
Pt **nanoparticles** pptd. on heating above their crit. flocculation  
temps. (CFTs), which were strongly dependent on the soln. pH and the  
copolymer compn. The CFTs were 0.2-1.6.degree.C lower than the lower  
crit. soln. temps. (LCSTs) of the copolymers free in water and the  
differences increased with increasing PVAm content. The catalytic  
activity of the Pt **nanoparticles** was investigated in the aq.  
**hydrogenation** of allyl alc. It was found that the  
activity was regulated through temp.- and pH-induced phase sepn. The PVAm  
content also strongly effected the catalytic activity and the morphol. of  
phase sepd. **catalysts**. With a PVAm content of 4.1 mol%, the  
colloidal platinum sol reversibly changed its catalytic activity with  
changes in temp.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2000:566746 CAPLUS

DN 134:117443  
 TI **Hydrogenation** of olefins in aqueous phase, catalyzed by  
 ligand/protected and **polymer**-protected rhodium colloids  
 AU Borsla, A.; Wilhelm, A. M.; Canselier, J. P.; Delmas, H.  
 CS Laboratoire de Genie Chimique-UMR CNRS 5503 (INPT/UPS) Ecole Nationale  
 Supérieure d'Ingenieurs de Genie Chimique, Toulouse, 31078/4, Fr.  
 SO Studies in Surface Science and Catalysis (2000), 130C(International *date*  
 Congress on Catalysis, 2000, Pt. C), 2093-2098  
 CODEN: SSCTDM; ISSN: 0167-2991  
 PB Elsevier Science B.V.  
 DT Journal  
 LA English  
 AB M-tri-sulfonated triphenylphosphine oxide as its sodium salt (OTPPTS) and  
 highly water sol. **polymers** such as poly(vinyl alc.)  
 (PVA) and poly(vinylpyrrolidone) (PVP) were used to **stabilize**  
 colloidal suspensions of active rhodium particles. The **stabilized**  
 colloids were used as **catalysts** in **hydrogenation** of  
 oct-1-ene in a two-liq. phase system. The effect of various parameters on  
 the stability and activity of the **metal nanoparticles**  
 under more or less severe conditions was studied. For OTPPTS-protected  
 rhodium colloid systems, the colloid stability improved by increasing the  
 P/Rh molar ratio. Lowering the pressure also improved stability, but led  
 to lower catalytic activity while temp. had no effect on stability but  
 rather on the formation of the active species. The PVP(K15)-Rh colloids  
 can be re-used more than one time at 50.degree. and 0.3 MPa without loss  
 of activity, but not the PVP(K30)-Rh and PVA-Rh colloids. Recycling of  
 the catalytic phase provided unchanged turnover frequencies. Suppression  
 of co-solvent did not result in noticeable changes in activity, indicating  
 that the reaction takes place at the interface. The MET micrographs of  
 the catalytic phase of the OTPPTS-Rh system after use in  
**hydrogenation** shows 4 nm particles contg. rhodium oxide and  
 metallic rhodium. IR spectroscopy anal. of the PVP-Rh colloids shows  
 geminal and terminal Rh-CO species with a preponderance of the geminal  
 ones.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS  
 AN 1999:150983 CAPLUS  
 DN 130:257756  
 TI Homogeneous **hydrogenation** catalysis with monodisperse,  
 dendrimer-encapsulated Pd and Pt **nanoparticles**  
 AU Zhao, Mingqi; Crooks, Richard M.  
 CS Department of Chemistry, Texas A and M University, College Station, TX,  
 77842-3012, USA  
 SO Angewandte Chemie, International Edition (1999), 38(3), 364-366  
 CODEN: ACIEF5; ISSN: 1433-7851  
 PB Wiley-VCH Verlag GmbH  
 DT Journal  
 LA English  
 AB In this report we show that composite materials that consist of noble  
**metal nanoparticles stabilized** within  
 dendrimer interiors are suitable for use as homogeneous  
**hydrogenation catalysts**. These interesting new  
 materials are prepd. by sorbing PdII or PtII ions into hydroxyl-terminated  
 poly(amidoamine) (PAMAM) dendrimers (Gn-OH, where Gn represents the nth  
 generation) where they complex with interior amine groups. Subsequent  
 chem. redn. of the **metal** ions with BH4- yields  
 dendrimer-encapsulated **metal nanoparticles** that  
 contain the same no. of atoms as were preloaded into the dendrimer  
 initially. The resulting composites are sol. in water and stable, either  
 dry or solvated, for at least several months. Thus, the dendrimer acts as  
 both a template for the prepn. of monodisperse **nanoparticles** and  
 a porous **stabilizer**. Dendrimer-encapsulated Pd clusters exhibit

high catalytic activity for the **hydrogenation** of alkenes in water. Importantly, the catalytic activity can be controlled by adjusting the size (generation) of the dendrimer; i.e., the dendrimer acts as a "nanofilter" with a synthetically controllable mesh.

RE.CNT 16      THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 127 and carbohydrate  
108745 CARBOHYDRATE  
116172 CARBOHYDRATES  
176447 CARBOHYDRATE  
          (CARBOHYDRATE OR CARBOHYDRATES)  
L30            0 L27 AND CARBOHYDRATE

=> s 127 and sugar  
211736 SUGAR  
113563 SUGARS  
277596 SUGAR  
          (SUGAR OR SUGARS)  
L31            0 L27 AND SUGAR

=> s 127 and fructose  
53219 FRUCTOSE  
82 FRUCTOSES  
53232 FRUCTOSE  
          (FRUCTOSE OR FRUCTOSES)  
L32            0 L27 AND FRUCTOSE

=> s 127 and glucose  
341326 GLUCOSE  
712 GLUCOSES  
341480 GLUCOSE  
          (GLUCOSE OR GLUCOSES)  
L33            0 L27 AND GLUCOSE

=> s 127 and sorbose  
3097 SORBOSE  
38 SORBOSES  
3108 SORBOSE  
          (SORBOSE OR SORBOSES)  
L34            0 L27 AND SORBOSE

=> s 120 and reduction  
262772 REDUCTION  
5081 REDUCTIONS  
265419 REDUCTION  
          (REDUCTION OR REDUCTIONS)  
742417 REDN  
39209 REDNS  
766916 REDN  
          (REDN OR REDNS)  
891539 REDUCTION  
          (REDUCTION OR REDN)  
L35            15 L20 AND REDUCTION

=> s 135 and aqueous  
148293 AQUEOUS  
1 AQUEOUSES  
148294 AQUEOUS  
          (AQUEOUS OR AQUEOUSES)  
933909 AQ  
119 AQS  
933982 AQ

(AQ OR AQS)  
968682 AQUEOUS  
(AQUEOUS OR AQ)

L36 3 L35 AND AQUEOUS

=> dis l36 1-3 bib abs

L36 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2001:442833 CAPLUS

DN 135:182330

TI The Effect of **Stabilizers** on the Catalytic Activity and Stability of Pd Colloidal **Nanoparticles** in the Suzuki Reactions in **Aqueous** Solution

AU Li, Yin; El-Sayed, Mostafa A.

CS Laser Dynamics Laboratory School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA, 30332-0400, USA

SO Journal of Physical Chemistry B (2001), 105(37), 8938-8943  
CODEN: JPCBFK; ISSN: 1089-5647

PB American Chemical Society

DT Journal

LA English

AB The role was studied, of capping materials on catalytic activity and stability of transition **metal nanoparticles** used in catalysis in soln. The Pd **nanoparticles** were prepd. by **redn.** of **metal** salts in the presence of **stabilizers**, hydroxy-terminated poly(amido-amine) (PAMAM) dendrimers (Gn-OH, where Gn represents the nth generation), polystyrene-b-poly(sodium acrylate), and poly(N-vinyl-2-pyrrolidone) (PVP). The particles were used as **catalysts** in Suzuki reactions in an **aq.** medium to study the effects of these **stabilizers** on the metallic **nanoparticle** catalytic activity and stability. The stability of the Pd **nanoparticles** was measured by the tendency of **nanoparticles** to give Pd black powder after the catalytic reaction. The Suzuki reaction is a good acid test for examg. the stability of these **nanoparticles**, as it takes place when refluxed at about 100.degree. for 24 h. The stability depends on the type of **stabilizer**, reactant, and base used in the reaction system. The Pd **nanoparticles** **stabilized** with the block copolymer, G3 dendrimer, and PVP are efficient **catalysts** for the Suzuki reactions between phenylboronic acid (or 2-thiopheneboronic acid) and iodobenzene. The G4 dendrimer is an effective **stabilizer**; however, strong encapsulation of Pd particles in the dendrimer results in a loss of catalytic activity. The Suzuki reactions between arylboronic acids and bromoarenes catalyzed by Pd **nanoparticles** result in byproducts due to the homo-coupling of bromoarenes. The two properties are anti-correlated, i.e., the most stable is the least catalytically active.

RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2001:65241 CAPLUS

DN 134:268058

TI Synthesis and functionalities of poly(N-vinylalkyloamide). XIII. Temperature and pH dependence of the catalytic activity of colloidal platinum **nanoparticles** **stabilized** by poly[(vinylamine)-co-(N-vinylisobutyramide)]

AU Chen, Chun-Wei; Arai, Kumiko; Yamamoto, Kazuya; Serizawa, Takeshi; Akashi, Mitsuru

CS Dep. Applied Chem. Chemical Eng., Kagoshima Univ., Kagoshima, 890-0065, Japan

SO Macromolecular Chemistry and Physics (2000), 201(18), 2811-2819  
CODEN: MCHPES; ISSN: 1022-1352

PB Wiley-VCH Verlag GmbH

4-2-2-1

DT Journal  
LA English  
AB Colloidal platinum **nanoparticles** in the size range of 5-35 .ANG. have been successfully prepd. in water at room temp. by NaBH<sub>4</sub> **redn** . of ionic platinum in the presence of poly[(vinylamine)-co-(N-vinylisobutyramide)] (PVAm-co-PNVIBA). The temp.- and pH-responsive copolymer was used for the first time as the **stabilizer** of colloidal **metal** particles. Three PVAm-co-PNVIBA copolymers with PVAm contents of 4.1, 8.3, and 19.8 mol-% were examd. The particle size and morphol. of the platinum colloids varied with the copolymer compn., as confirmed by TEM measurements. The **polymer-stabilized** Pt **nanoparticles** pptd. on heating above their crit. flocculation temps. (CFTs), which were strongly dependent on the soln. pH and the copolymer compn. The CFTs were 0.2-1.6.degree.C lower than the lower crit. soln. temps. (LCSTs) of the copolymers free in water and the differences increased with increasing PVAm content. The catalytic activity of the Pt **nanoparticles** was investigated in the **aq.** hydrogenation of allyl alc. It was found that the activity was regulated through temp.- and pH-induced phase sepn. The PVAm content also strongly effected the catalytic activity and the morphol. of phase sepd. **catalysts**. With a PVAm content of 4.1 mol%, the colloidal platinum sol reversibly changed its catalytic activity with changes in temp.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 1999:760465 CAPLUS

DN 132:107585

TI Preparation and characterization of solvent-**stabilized** nanoparticulate platinum and palladium and their catalytic behavior towards the enantioselective hydrogenation of ethyl pyruvate

AU Collier, P. J.; Iggo, J. A.; Whyman, R.

CS Department of Chemistry, University of Liverpool, Liverpool, UK

SO Journal of Molecular Catalysis A: Chemical (1999), 146(1-2), 149-157  
CODEN: JMCCF2; ISSN: 1381-1169

PB Elsevier Science B.V.

DT Journal

LA English

AB Solvent-**stabilized** Pt and Pd **nanoparticles**, of s size range 2.3-2.8 nm and 2.7-3.8 nm, resp., were prepd. by **metal** vapor synthesis routes, characterized by TEM, and their behavior as **catalysts** for the enantioselective hydrogenation of Et pyruvate (EP) studied; comparisons were effected with the performance of std. supported Pt and Pd **catalysts**. Cinchona alkaloid-modified Pt **nanoparticles** display parallel behavior to that exhibited by their conventional supported counterparts both in terms of the sense of the enantioselectivity in the Et lactate product and in the acceleration in reaction rate relative to the unmodified system. With Pd, however, significant differences are noted. Here, the sense of the enantioselectivity relative to that reported previously over conventional supported **catalysts** is reversed, i.e., an (R)- vs. (S)-enantiomer switch occurs, and a rate acceleration rather than retardation is noted on cinchona alkaloid modification. The Pt particle size distribution shows a higher degree of monodispersity after use in catalysis, although the av. particle size remains essentially unchanged, whereas the behavior of the Pd **nanoparticles** shows evidence of concn. dependence, lower concns. showing Pt-like behavior but more highly concd. preps. showing evidence of significant aggregation during catalysis. With Pt **catalysts**, the presence of H<sub>2</sub>O as a component of the ketonic solvent system results in a significant acceleration in overall reaction rate with both conventional supported **catalysts** and their solvent-**stabilized** counterparts. In sharp contrast, totally **aq.**-based colloidal Pt preps., obtained

by conventional salt **redn.**, display very low reaction rates and enantioselectivities.

RE.CNT 19      THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 1 OF 5 MEDLINE  
 ACCESSION NUMBER: 2002478532 IN-PROCESS  
 DOCUMENT NUMBER: 22225843 PubMed ID: 12240156  
 TITLE: **Nanoparticles** as structural and functional units in surface-confined architectures.  
 AUTHOR: Shipway A N; Willner I  
 CORPORATE SOURCE: Institute of Chemistry, Hebrew University of Jerusalem, Jerusalem 91904, Israel.  
 SOURCE: Chem Commun (Camb), (2001 Oct 21) (20) 2035-45.  
 Journal code: 9610838. ISSN: 1359-7345.  
 PUB. COUNTRY: England: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals  
 ENTRY DATE: Entered STN: 20020921  
 Last Updated on STN: 20020921

AB The nanoscale engineering of functional chemical assemblies has attracted recent research effort to provide dense information storage, miniaturized sensors, efficient energy **conversion**, light-harvesting, and mechanical motion. Functional **nanoparticles** exhibiting unique photonic, electronic and catalytic properties provide invaluable building blocks for such nanoengineered architectures. **Metal nanoparticle** arrays crosslinked by molecular receptor units on electrodes act as selective sensing interfaces with controlled porosity and tunable sensitivity. Photosensitizer/electron-acceptor bridged arrays of Au-**nanoarticles** on conductive supports act as photoelectrochemically active electrodes. Semiconductor **nanoarticle** composites on surfaces act as efficient light collecting systems, and nanoengineered semiconductor 'core-shell' nanocrystal assemblies reveal enhanced photoelectrochemical performance due to effective charge separation. Layered **metal** and semiconductor **nanoarticle** arrays crosslinked by nucleic acids find applications in the optical, electronic and photoelectrochemical detection of DNA. **Metal** and semiconductor **nanoarticles** assembled on DNA templates may be used to generate complex electronic circuitry. **Nanoparticles** incorporated in hydrogel matrices yield new composite materials with novel magnetic, optical and electronic properties.

L4 ANSWER 2 OF 5 MEDLINE  
 ACCESSION NUMBER: 2000194022 MEDLINE  
 DOCUMENT NUMBER: 20194022 PubMed ID: 10673315  
 TITLE: Hybrid electrochemical/chemical synthesis of quantum dots.  
 AUTHOR: Penner R M  
 CORPORATE SOURCE: Institute for Surface and Interface Science, Department of Chemistry, University of California, Irvine, California 92679-2025, USA.. rmpenner@uci.edu  
 SOURCE: Acc Chem Res, (2000 Feb) 33 (2) 78-86. Ref: 37  
 Journal code: 0157313. ISSN: 0001-4842.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 General Review; (REVIEW)  
 (REVIEW, TUTORIAL)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 200005  
 ENTRY DATE: Entered STN: 20000512  
 Last Updated on STN: 20000512  
 Entered Medline: 20000501

AB The "electrochemical/chemical method" (or "E/C method") is a new wet chemical method for synthesizing semiconductor quantum dots on graphite surfaces. The E/C synthesis of quantum dots composed of the generic semiconducting salt, MX, typically involves three steps: (1)

electrochemical deposition of **nanoparticles** of the **metal**,  $M$  degrees, from a solution of **metal** ions,  $M(n)(+)$ ; (2) electrochemical oxidation of these **metal** particles to  $MO(n)()( /2)$ , and; (3) displacement of the oxygen from  $MO(n)()( /2)$  using HX (for example) to yield **nanoparticles** of MX. This **conversion** from **metal** to **metal** oxide to **metal** salt occurs on a particle-by-particle basis; that is, each **metal nanoparticle** is converted into a semiconductor **nanoparticle**. E/C-synthesized beta-CuI and CdS quantum dots possess many of the attributes of quantum dots synthesized using molecular beam epitaxy, including epitaxial orientation on the graphite surface, a narrow size dispersion, and strong, particle size-tunable photoluminescence. However, the E/C method is faster, cheaper, and applicable to a greater number of materials.

L4 ANSWER 3 OF 5 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 ACCESSION NUMBER: 2002263725 EMBASE  
 TITLE: Plasmon-assisted transmission of entangled photons.  
 AUTHOR: Altewischer E.; Van Exter M.P.; Woerdman J.P.  
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 SOURCE: Nature, (18 Jul 2002) 418/6895 (304-306).  
 Refs: 16  
 ISSN: 0028-0836 CODEN: NATUAS  
 COUNTRY: United Kingdom  
 DOCUMENT TYPE: Journal; Article  
 FILE SEGMENT: 027 Biophysics, Bioengineering and Medical Instrumentation  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English  
 AB The state of a two-particle system is said to be entangled when its quantum-mechanical wavefunction cannot be factorized into two single-particle wavefunctions. This leads to one of the strongest counter-intuitive features of quantum mechanics, namely non-locality. Experimental realization of quantum entanglement is relatively easy for photons; a starting photon can spontaneously split into a pair of entangled photons inside a nonlinear crystal. Here we investigate the effects of nanostructured **metal** optical elements on the properties of entangled photons. To this end, we place optically thick **metal** films perforated with a periodic array of subwavelength holes in the paths of the two entangled photons. Such arrays convert photons into surface-plasmon waves-optically excited compressive charge density waves-which tunnel through the holes before reradiating as photons at the far side. We address the question of whether the entanglement survives such a **conversion** process. Our coincidence counting measurements show that it does, so demonstrating that the surface plasmons have a true quantum nature. Focusing one of the photon beams on its array reduces the quality of the entanglement. The propagation of the surface plasmons makes the array effectively act as a 'which way' detector.

L4 ANSWER 4 OF 5 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 ACCESSION NUMBER: 2002187476 EMBASE  
 TITLE: Nanoporous iron oxide membranes: Layer-by-layer deposition and electrochemical characterisation of processes within nanopores.  
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 SOURCE: New Journal of Chemistry, (2002) 26/5 (625-629).  
 Refs: 27  
 ISSN: 1144-0546 CODEN: NJCHE5



COUNTRY: United Kingdom  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB A versatile procedure for the formation of nanoporous **metal** oxide membranes is reported, based on a layer-by-layer deposition procedure ('directed assembly') of **metal** oxide **nanoparticles** with appropriate 'linker' molecules; here Fe(2)O(3) particles and phytic acid. Two types of nanoporous Fe(2)O(3) membranes have been prepared and characterised: (A) a nanofilm deposit composed of 4-5 nm diameter Fe(2)O(3) particles linked by phytic acid and (B) a nanoporous film formed after calcination of the type A deposit at 500.degree.C in air. The nanofilm deposits are characterised by microscopy (SEM and AFM) and by electrochemical methods. Mechanically stable and homogeneous nanofilm deposits with controlled thickness (ca. 3 nm per layer deposited) were obtained. Transport of small molecules or ions through the nanoporous structure and their electrochemical **conversion** are shown to be fast in the presence of a sufficiently high concentration of supporting electrolyte. During the electrochemical oxidation of ferrocyanide, Fe(CN)(6)(-4), the nanoporous structure of the type A deposit is shown to act as an 'active' membrane, which changes the electrode kinetics by 'double-layer superposition' effects. For the second type of nanofilm, type B, ferrocyanide is accumulated by adsorption within the porous structure.

L4 ANSWER 5 OF 5 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
ACCESSION NUMBER: 2001388918 EMBASE  
TITLE: **Nanoparticles** as structural and functional units in surface-confined architectures.  
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SOURCE: Chemical Communications, (21 Oct 2001) 7/20 (2035-2045).  
Refs: 150  
ISSN: 1359-7345 CODEN: CHCOFS

COUNTRY: United Kingdom  
DOCUMENT TYPE: Journal; General Review  
FILE SEGMENT: 029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB The nanoscale engineering of functional chemical assemblies has attracted recent research effort to provide dense information storage, miniaturized sensors, efficient energy **conversion**, light-harvesting, and mechanical motion. Functional **nanoparticles** exhibiting unique photonic, electronic and catalytic properties provide invaluable building blocks for such nanoengineered architectures. **Metal nanoparticle** arrays crosslinked by molecular receptor units on electrodes act as selective sensing interfaces with controlled porosity and tunable sensitivity. Photosensitizer/electron-acceptor bridged arrays of Au-**nanoparticles** on conductive supports act as photoelectrochemically active electrodes. Semiconductor **nanoparticle** composites on surfaces act as efficient light collecting systems, and nanoengineered semiconductor 'core - shell' nanocrystal assemblies reveal enhanced photoelectrochemical performance due to effective charge separation. Layered **metal** and semiconductor **nanoparticle** arrays crosslinked by nucleic acids find applications in the optical, electronic and photoelectrochemical detection of DNA. **Metal** and semiconductor **nanoparticles** assembled on DNA templates may be used to generate complex electronic circuitry. **Nanoparticles** incorporated in hydrogel matrices yield new composite materials with novel magnetic, optical and electronic properties.